

CLAIMS

1. A motor vehicle wiper which comprises a wiper blade (20) mounted so as to be articulated at the front longitudinal end (22a) of a wiper arm (22) about a horizontal transverse axis (A) by means of a connector (24),

of the type in which the connector (24) comprises a roughly horizontal body (38) whose bottom face (38i) carries hooks (40) for fixing to a structural element (34) of the blade (20) which carries the wiper rubber (26) of the blade (20),

of the type in which the top face (38s) of the connector body (38) carries means of articulation (46a) with the end (22a) of the arm (22) about the transverse articulation axis (A),

of the type in which the end of the arm comprises a web which extends substantially horizontally above the connector and which carries means (46b) of articulation of the connector (24) about the transverse articulation axis (A),

of the type in which the means of articulation of the connector (46a, 46b) with the end (22a) of the arm (22) comprise at least one pivot (56) with a transverse axis coaxial with the transverse articulation axis (A), which extends transversely from a lateral face (58a) of a first associated support element (58) belonging to the end (22a) of the arm (22) or to the connector (24), and which is able to received in a complementary housing (62) produced in a second associated support

element (60) belonging to the connector (24) or to the end (22a) of the arm (22), respectively,

of the type in which the first support element (58) and/or the second support element (60) comprise elastically deformable elements to allow the introduction of the pivot (56) into the associated housing (62) and cause the automatic radial locking of the pivot (56) in the housing (62),

and of the type in which the first support element (58) and second support element (60) are produced in one piece by moulding from plastics material with the arm (22) or the connector (24) respectively,

characterised in that the end (22a) of the arm (22) comprises means (52, 84) for the longitudinal positioning of the connector distinct from the articulation means (56).

2. A wiper according to the preceding claim, characterised in that the positioning means (52, 84) extend substantially transversely with respect to the longitudinal direction of the arm.

3. A wiper according to Claim 1 or 2, characterised in that the positioning means comprise two vertical transverse ribs (84) which connect two lateral cheeks (50) of the end (22a) of the arm (22) and which are distributed longitudinally with respect to the web (48) of the arm (22) so that the connector (24) extends longitudinally between the transverse ribs (84) when it is in position mounted between the cheeks (50) of the end (22a) of the arm (22).

4. A wiper according to the preceding claim, characterised in that the connector (24) comprises a portion in the form of a ramp (80s) which is able to cooperate with the bottom edge (84i) of a rib (84) in order to position the connector (24) longitudinally before the introduction of the pivot (56) into the housing (62).

5. A wiper according to any one of the preceding claims, characterised in that the connector (24) and arm (22) comprise means of limiting the magnitude of the pivoting of the blade (20), and of the connector (24), with respect to the arm (22), about the transverse articulation axis (A).

6. A wiper according to Claim 5, characterised in that the connector (24) comprises at least one rib (80), the top surface (80s) of which comes into abutment against the bottom face (48i) of the web (48) of the end (22a) of the arm (22) for an extreme angular position of the blade (20) with respect to the arm (22).

7. A wiper according to Claim 5 or 6, characterised in that at least one transverse rib (84) of the arm (22) extends vertically downwards so that the top face (30s) of the rubber (26) comes into abutment against the bottom edge (84i) of the rib (84), for an extreme angular position of the blade (20) with respect to the arm (22).

8. A wiper according to any one of the preceding claims, characterised in that the second support element (60) comprises an elastic clamp (64) whose

internal faces opposite the branches (66) of the clamp (64) each comprises a concave portion which partly delimits the housing (62) and the branches (66) of which are overall articulated about a transverse axis so as to separate to allow the introduction of the pivot (56) into the housing (62).

9. A wiper according to the preceding claim, characterised in that the branches (66) of the elastic clamp (64) extend roughly vertically so that the pivot (56) is able to be introduced vertically into the associated housing (62).

10. A wiper according to any one of Claims 1 to 7, characterised in that the second support element (60) consists of a vertical longitudinal cheek which comprises a transverse orifice (72) with a circular cross section delimiting the housing (62).

11. A wiper according to the preceding claim, characterised in that the cheek (60) comprises a portion in the form of a ramp (74) which extends from the free longitudinal edge of the cheek as far as the transverse orifice (72), on which the pivot (56) rests when it is introduced into the housing (62), in order to cause the deformation of the elastically deformable elements.

12. A wiper according to the preceding claim, characterised in that the cheek (50) is elastically deformable.

13. A wiper according to one of Claims 11 or 12, characterised in that the free end (56a) of the pivot (56) is bevelled and is able to cooperate with the

portion of the cheek in the form of a ramp (74) when the pivot (56) is introduced into the housing (62).

14. A wiper according to one of the preceding claims, characterised in that the second support
5 element (60) comprises a vertical longitudinal lateral face (60a) with which there cooperates a facing vertical longitudinal face (58a) belonging to the first support element (58) for the rotational guidance of the connector (24) with respect to the front end (22a) of
10 the arm (22).

15. A wiper according to any one of Claims 1 to 13, characterised in that the second support element (60) comprises a vertical longitudinal lateral face (60a) with which there cooperates a facing vertical
15 longitudinal guide face (78a) belonging to a rib (78) for the rotational guidance of the connector (24) with respect to the front end (22a) of the arm (22).

16. A wiper according to one of Claims 14 or 15, in combination with Claim 8, characterised in that the
20 second support element (60) comprises at least one vertical longitudinal cheek (80), the lateral face (80a) of which opposite the first associated support element (58) projects transversely with respect to the clamp (64) in order to form a surface for guiding in
25 rotation.

17. A wiper according to the preceding claim, characterised in that the connector (24) comprises two vertical longitudinal cheeks (80) distributed longitudinally on each side of the clamp (64), and in
30 that the lateral faces (80a) of the cheeks (80),

forming the guide surfaces, extend longitudinally on each side of the body (38) of the connector (24).

18. A wiper according to Claim 16 or 17, characterised in that the first support element (58) and rib (78) are distributed transversely on each side of the second support element (60).

19. A wiper according to any one of the preceding claims, characterised in that the first support element (58) is an element of the connector (24), and in that the second support element (60) is a part of the end (22a) of the arm (22).

20. A wiper according to the preceding claim, in combination with Claim 15, characterised in that the rib (78) is a part of the connector (24).

21. A wiper according to any one of Claims 1 to 18, characterised in that the first support element (58) is an element of the end (22a) of the arm (22), and the second support element (60) is a part of the connector (24).

22. A wiper according to the preceding claim, in combination with Claim 15, characterised in that the rib (78) is a part of the end (22a) of the arm (22).

23. A wiper according to any one of the preceding claims, characterised in that the connector (24) and the end (22a) of the arm (22) are each symmetrical with respect to the same vertical longitudinal mid-plane, so that the connector (24) comprises two first support elements (58) or two second support elements (60), and the end (22a) of the arm (22) comprises two second support elements (60) or two

first support elements (58) respectively.

24. A wiper according to the preceding claim, in
combination with Claim 20 or 22, characterised in that
the rib (78) is arranged transversely between two
5 second support elements (60).